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PROJECT BOOKLET

MAT2038 Applied Mathematics 20
Module 5

FOR STUDENT USE ONLY

Date Assignment Submitted:

Time Spent on Assignment:

(If label is missing or incorrect)

Student File Number:

Module Number: _____

FOR OFFICE USE ONLY

Assigned

Teacher: _____

Assignment

Grading: _____

Graded by: _____

Date Assignment Received:

Student's Questions and Comments

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Teacher's Comments

Teacher

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Applied

Module

5

Mathematics 20

FINANCE

PROJECT BOOKLET



Learning
Technologies
Branch

Alberta
LEARNING

FOR TEACHER'S USE ONLY

Summary

Total Possible Marks	Your Mark
40	

Teacher's Comments

Applied Mathematics 20
Module 5: Finance
Project Booklet
Learning Technologies Branch
ISBN 0-7741-2017-7

Title page: PhotoDisc, Inc.

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	
General Public	
Other	



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- Alberta Learning, <http://www.learning.gov.ab.ca>
- Learning Technologies Branch, <http://www.learning.gov.ab.ca/ltb>
- Learning Resources Centre, <http://www.lrc.learning.gov.ab.ca>

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PROJECT BOOKLET

APPLIED MATHEMATICS 20: MODULE 5

Your mark for this module will be determined by how well you do on the module project in this Project Booklet and the module assignment in the Assignment Booklet.

The value of each part of the module project is stated in the left margin of this booklet. The total value of the module project is 40 marks.

Read all parts of this booklet carefully and record your answers in the appropriate place. Work slowly and carefully. If you are having difficulties, go back and review the appropriate activity in the Student Module Booklet.

Be sure to complete all parts of the project and proofread your responses before submitting this project to your teacher. If you require more room for any response, use your own paper and attach it securely to this booklet.

40

Module Project: Budgeting for Living Independently

Your project for Module 5: Finance is Budgeting for Living Independently. A major aspect of this project involves collecting information on expenses you will most likely encounter when you live on your own.

One major expense is purchasing or leasing a vehicle of your choice. You may have to collect this information from a variety of independent sources: vehicle brochures, newspaper or magazine advertisements, salespeople, consumer reports, or the Internet. Once you have collected the information, you will enter it on the Monthly Budget Worksheet included in this Project Booklet.

- 5
1. Briefly describe what occupation you will have when you are finally on your own, your probable income, and your lifestyle.

④

2. Assuming you will buy or lease a car, what is the car of your choice? Calculate the cost of buying this car. Include all fees and taxes.

④

3. If you choose to purchase the car over 36 months, what will be your down payment and monthly payments?

- ④ 4. If you choose to lease this vehicle for 36 months, what will be your down payment and your monthly lease payments, including taxes? How much will you be able to purchase it for at the end of the lease period?

- ③ 5. What insurance coverage will you purchase? What is the annual cost of this coverage? What is the annual registration fee?

- ③ 6. What will be the annual maintenance costs? Explain how you arrived at this figure.

③

7. Assume you will drive your car 20 000 km a year. Use the fuel consumption rating for your car to estimate the annual cost of gasoline.

④

8. Assume you are employed in the job of your choice. What is your gross monthly income? What will be your deductions? What will be your net monthly income after deductions? Show how you arrived at your net income.

10

9. Complete the Monthly Budget Worksheet. Use as much of the information you provided in questions 1 to 8 as possible.

Budget Worksheet

Monthly Budget Worksheet for _____

Average Monthly Net Income _____

Projected Expenses

1. HOUSING and UTILITIES

Rent or Mortgage _____
 Utilities _____
 Cable _____
 Insurance _____
 Taxes _____
 Repairs _____

TOTAL _____
 % of Net Income _____

2. FOOD and CLOTHING

Groceries _____
 Eating Out _____
 Clothing _____
 Footwear _____

TOTAL _____
 % of Net Income _____

3. HEALTH and PERSONAL CARE

Prescriptions _____
 Dental _____
 Other Medical _____
 Skin and Hair Care _____

TOTAL _____
 % of Net Income _____

4. TRANSPORTATION

Public Transit _____
 Taxis _____
 Car Payment _____
 Car Licence _____
 Car Insurance _____
 Gas, Oil, etc. _____
 Repairs _____

TOTAL _____
 % of Net Income _____

5. RECREATION and EDUCATION

Entertainment _____
 Hobbies _____
 Vacations _____
 Lessons _____
 School Expenses _____

TOTAL _____
 % of Net Income _____

6. SAVINGS

Short-Term _____
 Long-Term _____

TOTAL _____
 % of Net Income _____

7. MISCELLANEOUS

Gifts _____
 Donations _____

TOTAL _____
 % of Net Income _____


Summary

Net Income _____

1. Housing and Utilities _____
 2. Food and Clothing _____
 3. Health and Personal Care _____
 4. Transportation _____
 5. Recreation and Education _____
 6. Savings _____
 7. Miscellaneous _____

Total Monthly Expenses _____

Discretionary Income _____



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Module 5

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Applied

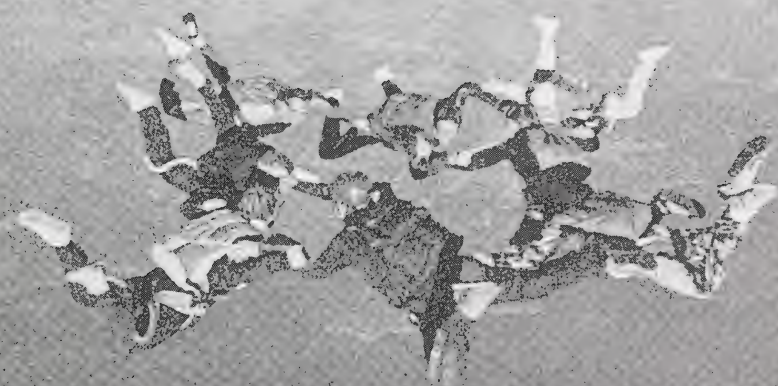
Mathematics 20

Module

5

FINANCE

ASSIGNMENT BOOKLET



FOR TEACHER'S USE ONLY

Summary

Total Possible Marks	Your Mark
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Teacher's Comments

Applied Mathematics 20
Module 5: Finance
Assignment Booklet
Learning Technologies Branch
ISBN 0-7741-2016-9

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The value of each part of the module assignment is stated in the left margin of this booklet. The total value of the module assignment is 60 marks.

Read all parts of this booklet carefully and record your answers in the appropriate place. Work slowly and carefully. If you are having difficulties, go back and review the appropriate activity in the Student Module Booklet.

Be sure to complete all parts of the assignment and proofread your responses before submitting this assignment to your teacher.

60

Module Assignment

4

1. Rube is a computer salesman. He is paid a graduated commission: 6% of the first \$3000 of sales, 8% of the next \$5000 of sales, and 18% of sales in excess of \$8000. Calculate Rube's gross income for the month when his total sales were \$27 000.

1

2. Nadine works in Regina and earns a biweekly salary of \$1142. She contributes \$100 per pay period to an RRSP. From the TD1 form, Nadine's claim code is 1. Use the tables on pages 286 to 289 of the textbook to answer the following questions.

a. What are Nadine's biweekly CPP contributions?

1

b. What are Nadine's biweekly EI premiums?

②

- c. Determine how much income tax Nadine pays biweekly.

②

- d. Calculate Nadine's biweekly net income.

③

3. Clifton is planning a trip to the United States. He wants to take US \$300 in spending money. If the current exchange rate is Can \$1.00 = US \$0.632, how much will the US \$300 cost Clifton in Canadian currency?

- ④ 4. The Fungs own their own home. This year the mill rate is 24.5 mills. Their property taxes are \$1351.00. What is the assessed value of their home?

- ③ 5. Which is the better buy, 250 mL of toothpaste at \$3.25 or 150 mL at \$1.59?

6. Daniel opened a new chequing account on November 3. On December 12, he received the following statement.

Date	Description of Transaction	Debits	Credits	Balance
Nov 3	Deposit		\$1,280.00	\$1,280.00
Nov 9	Instant Teller Withdrawal	\$100.00		\$1,180.00
Nov 10	Cheque 101	\$112.70		\$1,067.30
Nov 15	Deposit		\$750.00	\$1,817.30
Nov 19	Instant Teller Withdrawal	\$200.00		\$1,617.30
Nov 20	Cheque 102	\$245.00		\$1,372.30
Nov 29	Cheque 103	\$281.55		\$1,090.75
Nov 30	Transfer to Savings	\$500.00		\$590.75
Nov 30	Service Charge	\$9.50		\$581.25

The following is Daniel's own personal record for this account.

	A	B	C	D	E	F	G
1	Date	Cheque Number	Description of Transaction	Debit	✓	Credit	Balance
2	Nov 3		Deposit			\$1,280.00	\$1,280.00
3	Nov 5	101	A&B Clothing	\$112.70			\$1,167.30
4	Nov 9		Cash Withdrawal	\$100.00			\$1,067.30
5	Nov 13		Cash Withdrawal	\$200.00			\$867.30
6	Nov 15		Mid-Month Advance			\$750.00	\$1,617.30
7	Nov 16	102	DC Electronics	\$245.00			\$1,372.30
8	Nov 25	103	Dale's Men's Wear	\$218.55			\$1,153.75
9	Nov 30		Transfer to Savings	\$500.00			\$653.75
10	Nov 30		Service Charge	\$9.50			\$644.25

②

- a. Daniel made one error in his entries. What is the error, and how did it affect his personal record?

①

- b. Why is "Transfer to Savings" written as a debit?

③

- c. Reconcile Daniel's bank statement.

	A	B	C	D	E	F	G
1	Date	Cheque Number	Description of Transaction	Debit	✓	Credit	Balance
2	Nov 3		Deposit			\$1,280.00	\$1,280.00
3	Nov 5	101	A&B Clothing	\$112.70			\$1,167.30
4	Nov 9		Cash Withdrawal	\$100.00			\$1,067.30
5	Nov 13		Cash Withdrawal	\$200.00			\$867.30
6	Nov 15		Mid-Month Advance			\$750.00	\$1,617.30
7	Nov 16	102	DC Electronics	\$245.00			\$1,372.30
8	Nov 25	103	Dale's Men's Wear				
9	Nov 30		Transfer to Savings	\$500.00			
10	Nov 30		Service Charge	\$9.50			

7. Lynne invested \$8500 in an RRSP with a guaranteed interest rate of 4.75% per annum, compounded quarterly, for 5 years.

③

- a. Calculate the value of Lynne's investment at the end of the 5-year term.

①

- b. How much interest did Lynne earn on this investment?

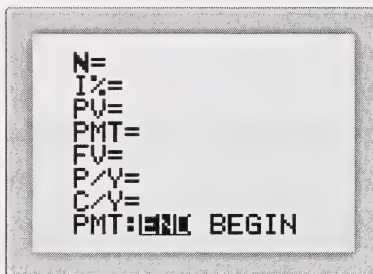
③

8. Chris purchased a 30-day GIC for \$1000. At the end of the 30-day period, his investment will be worth \$1010. What is the annual interest rate? Round your answer to 2 decimal places.

- ② 9. Alice has a savings account that pays 6% annual interest, compounded monthly. What is the effective annual interest rate? Round your answer to 2 decimal places.

10. Bernice borrows \$8000 from the bank to buy furniture for her new home. She agrees to repay the loan over 48 months at 9% annual interest, compounded monthly.

- ③ a. Use the TVM Solver on your graphing calculator to determine Bernice's monthly loan payment. Fill in the blank screen given.



- ② b. What are the total finance charges? Assume Bernice makes equal payments.

Use the LOAN spreadsheet you created in Activity 7 to answer exercise 11.

- 11.** Jeremy has a balance owing of \$4000 on his credit card. The credit-card company charges 18.0% annual interest, compounded monthly.

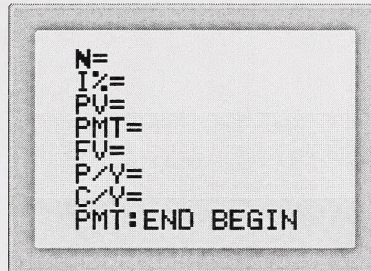
5

- a.** If Jeremy makes payments of \$300 every month, how much will he still owe after making 12 payments? Attach a copy of your spreadsheet in the space provided.

5

- b.** Modify your spreadsheet to determine the monthly payment necessary to have the loan paid off in full after 12 payments. Attach a copy of your spreadsheet in the space provided.

- ⑤ 12. At the end of each month, Jacob puts \$400 into an account that pays 6%, compounded semi-annually. Use your graphing calculator to determine how much Jacob will have after 25 years? Show how you obtained your answer by filling in the display given.



- ⑤ 13. Alison's net income for one month is \$2275. Her monthly expenses are as follows:

- | | | |
|-------------------|-----------------------|----------------------------------|
| • Rent: \$525 | • Cable: \$50 | • Health and Personal Care: \$50 |
| • Utilities: \$55 | • Bus Pass: \$50 | • Food: \$250 |
| • Phone: \$40 | • Student Loan: \$300 | • Clothing: \$150 |

Alison is saving to buy a car. She budgets 25% of her remaining income for recreation and for miscellaneous items and then places the rest into a savings account. Set up a budget for Alison using the expense categories from page 271 of the textbook.

